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Phenothiazine Toxicity in a Group of Shetland Ponies

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3 **Phenothiazine Toxicity in a Group of Shetland Ponies.** On September 16, 1959, six shetland ponies were admitted to the I.S.U. Veterinary Clinic. These ponies were from a band of thirty animals that had been sold and shipped to an eastern state in the spring. When returned here the animals all were in poor condition, and had a history of having "shipping fever" all summer. Examination showed all animals to be infected with strongyles. A standard therapeutic dose of phenothiazine was administered to the animals. No hemoglobin determination was made prior to treatment.

One animal died prior to admission to the clinic. Another animal was dead on arrival at the clinic and a necropsy was performed on this pony. The kidneys were enlarged and contained blood pigments. The liver was darker in color than normal and showed central lobular necrosis. Icterus and anemia were present in all mucous membranes. Nephroses, nephritis and several infarcts of the kidney were present.

Five other animals were alive when presented for diagnosis and treatment. Hematologic studies were performed on three of the ponies and are as follows:

Pony 1	4,790,000 RBC
	5.95 gms. Hb
	23 hematocrit
Pony 2	5,970,000 RBC
	4.40 gms. Hb
	21 hematocrit
Pony 3	4,730,000 RBC
	3.29 gms. Hb
	13 hematocrit

One mare was approximately 120 days pregnant when admitted. This animal and one gelding were given 500 cc. citrated whole blood I.V. immediately after admission, and another 250 cc. subcutaneously. The mare was incoordinated, trembling, and showed some respiratory distress. This mare aborted approximately eight hours after admission, and was found dead in the stall the following morning. A necropsy was performed and the lesions were the same as those found on the first animal that was necropsied.

The four other animals were still able to walk fairly well and these animals did eat. After admission these animals also received 250 cc. whole citrated blood subcutaneously, and this was repeated twenty four hours later. The remaining ponies improved within twenty four hours after the last blood was administered, and progressively improved in condition until they were discharged seven days later.

Although the four remaining animals appeared to have completely recovered, there still is some danger that permanent kidney and liver damage occured. This damage could be from direct phenothiazine toxicity, or as a result of the overloading of these organs during the elimination of hemolyzed red blood cells.

There are several contraindications for the use of phenothiazine in horses, as this species seems to be more susceptible to toxicities from this drug than any other domestic animal. Weak, anemic, and emaciated animals should not be treated with a full therapeutic dose of the drug. Animals in the last month of gestation are more susceptible to toxic manifestations of this drug also. Toxic symptoms observed in horses following phenothiazine therapy include dullness, weakness, anorexia, hemolysis of red blood cells leading to icterus, anemia and hemoglobinuria. One of the most significant clinical changes noted in horses during phenothiazine toxicity is the hemolysis of the red blood cells and the resulting pathology. Postmortem changes in horses have included enlargement of the kidneys, the spleen, and occassionally the heart to as much as two to three times the normal size.

It would appear that a hemoglobin determination, along with discreet use of small dosages in animals heavily parasitized and in poor condition, is mandatory with phenothiazine therapy in horses. With improvement in condition of the animal following the small initial dose, a larger dose of phenothiazine may be administered at a later date for more complete removal of the parasites.

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4 **Orchitis in a Week Old Shetland Colt.** A one week old Shetland colt was admitted to Stange Memorial Clinic on September 12, 1959 with a suspected